

# Infant Mortality

## An Overview: 2007

Infant Deaths	
Number	79
Rate per 1,000 Live Births	6.45
Neonatal Deaths	
Number	51
Rate per 1,000 Live Births	4.16
Postneonatal Death	
Number	28
Rate per 1,000 Live Births	2.29
Fetal Deaths	
Number	54
Rate per 1,000 Live Births + Fetal Deaths	4.39

During 2007, there were 79 South Dakota resident infant deaths reported for an infant mortality rate of 6.45 per 1,000 live births.

In comparison, there were 82 infant deaths in 2006, with the infant mortality rate of 6.88 per 1,000 live births. Caution should be used when comparing these annual rates, because the number of South Dakota resident births creates a relatively small denominator to determine infant mortality rates; a small change in the number of infant deaths can result in a relatively large rate change. For example, as Table 41, below, displays and Figure 10, page 44, illustrates, large downward spikes occurred in 1996 and 2000. Decreases of 39 infants from 1995 to 1996 and 37 infants from 1999 to 2000 caused large downward spikes in infant mortality rates. Therefore, infant mortality rates should be monitored over a period of time.

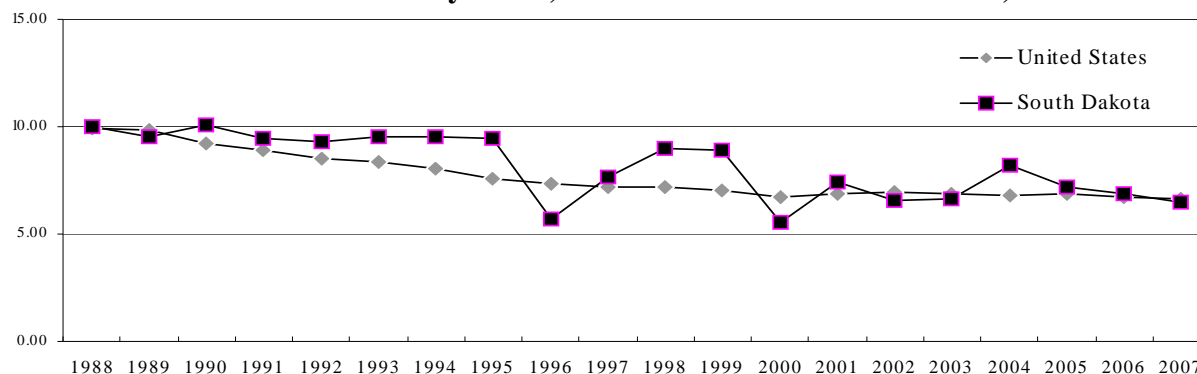
**Table 41**  
**Resident Infant Deaths and Infant Mortality Rates,**  
**South Dakota and United States, 1988-2007**

Year	United States		South Dakota	
	Number	Mortality Rate	Number	Mortality Rate
2007	*28,600	*6.63	79	6.45
2006	*28,609	*6.71	82	6.88
2005	28,440	*6.87	82	7.15
2004	27,936	6.79	93	8.20
2003	28,025	6.85	73	6.62
2002	28,034	6.97	70	6.54
2001	27,568	6.85	78	7.45
2000	27,200	6.70	57	5.51
1999	27,937	7.06	94	8.94
1998	28,371	7.20	92	8.95
1997	28,045	7.21	78	7.67
1996	28,487	7.32	60	5.73
1995	29,583	7.59	99	9.46
1994	31,710	8.02	100	9.52
1993	33,466	8.37	102	9.52
1992	34,628	8.52	102	9.27
1991	36,766	8.94	103	9.42
1990	38,351	9.22	111	10.10
1989	39,655	9.81	106	9.57
1988	38,910	9.95	112	10.01

Note: \* U.S. 2007 and 2006 data are provisional.  
Infant mortality rates are per 1,000 live births.

Source: National Center for Health Statistics  
South Dakota Department of Health, Office of Data, Statistics, and Vital Records

**Figure 10**  
**Resident Infant Mortality Rates, South Dakota and United States, 1988-2007**



Note: Rate Per 1,000 Live Births. U.S. 2007 and 2006 data are provisional.

Source: National Center for Health Statistics and South Dakota Department of Health, Office of Data, Statistics, and Vital Records

Table 42 lists the overall leading causes of infant death in 2003-2007. The leading causes of infant death in 2007 can be broken down as follows: certain conditions in

perinatal period, 41.8 percent; congenital malformations, 30.4 percent; sudden infant death syndrome, 10.1 percent; and accidents for 5.1 percent.

**Table 42**  
**South Dakota Resident Leading Causes of Infant Death, 2003-2007**

	Total	2007	2006	2005	2004	2003
<b>Total Deaths</b>	<b>409</b>	<b>79</b>	<b>82</b>	<b>82</b>	<b>93</b>	<b>73</b>
<b>Certain Conditions in the Perinatal Period ..... (P00-P96)</b>	<b>145</b>	<b>33</b>	<b>21</b>	<b>36</b>	<b>37</b>	<b>18</b>
Extreme immaturity (Less than 28 comp wks of gestation) .....(P07.2)	24	4	4	9	2	5
Primary atelectasis of newborn .....(P28.0)	17	2	1	9	4	1
Other preterm infants ( 28 comp wks or more but less than 37 comp wks of gestations) .....(P07.3)	8	1	1	1	4	1
Newborn affected by chorioamnionitis .....(P02.7)	8	2	1	0	2	3
Hydrops fetalis not due to hemolytic disease .....(P83.2)	7	0	2	1	4	0
Newborn affected by other forms of placental separation and hemorrhage .....(P02.1)	7	3	1	1	2	0
Newborn affected by premature rupture of membranes.....(P01.1)	7	1	3	2	1	0
Respiratory distress syndrome of newborn .....(P22.0)	6	2	0	1	1	2
Neonatal cardiac failure .....(P29.0)	5	3	1	1	0	0
All other conditions originating in perinatal period	56	15	7	11	17	6
<b>Congenital Malformations, Deformations, &amp; Chromosomal Abnormalities (Q00-Q99)</b>	<b>131</b>	<b>24</b>	<b>28</b>	<b>21</b>	<b>32</b>	<b>26</b>
Congenital malformations of the heart..... (Q20-Q24)	29	5	3	7	8	6
Chromosomal abnormalities ..... (Q90-Q99)	24	5	6	4	7	2
Edward's syndrome ..... (Q91.0-Q91.3)	11	2	3	1	5	0
Patau's syndrome..... (Q91.4-Q91.7)	8	2	2	2	1	1
Congenital malformations of the nervous system ..... (Q00-Q07)	22	4	5	4	6	3
Anencephaly ..... (Q00.0)	8	0	3	3	1	1
Holoprosencephaly..... (Q04.2)	7	2	1	1	2	1
Congenital malformations and deformations of the musculoskeletal system ..... (Q65-Q79)	16	3	3	3	3	4
Congenital diaphragmatic hernia ..... (Q79.0)	8	1	0	1	3	3
Congenital malformations of the urinary system ..... (Q60-Q64)	16	4	5	1	3	3
Potter's syndrome ..... (Q60.6)	5	1	1	0	1	2
Renal agenesis ..... (Q60.0-Q60.2)	5	1	2	1	1	0
Congenital malformations of the respiratory system ..... (Q30-Q34)	10	2	1	0	2	5
Hypoplasia and dysplasia of lung..... (Q33.6)	8	2	1	0	2	3
All other congenital anomalies	14	1	5	2	3	3
<b>Sudden Infant Death Syndrome ..... (R95)</b>	<b>49</b>	<b>8</b>	<b>12</b>	<b>7</b>	<b>8</b>	<b>14</b>
<b>Accidents ..... (V01-X59, Y85-Y86)</b>	<b>23</b>	<b>4</b>	<b>7</b>	<b>4</b>	<b>5</b>	<b>3</b>
Motor vehicle accidents	5	1	1	2	1	0
Accidental suffocation and strangulation in bed .....(W75)	5	1	1	0	2	1
All other accidents	13	2	5	2	2	2
<b>Ill-Defined and Unknown Causes of Mortality.....(R96-R99)</b>	<b>14</b>	<b>2</b>	<b>2</b>	<b>6</b>	<b>1</b>	<b>3</b>
<b>Symptoms, Signs, and Abnormal Clinical and Lab Findings.....(R00-R94)</b>	<b>8</b>	<b>4</b>	<b>2</b>	<b>2</b>	<b>0</b>	<b>0</b>
<b>All Other Causes</b>	<b>39</b>	<b>4</b>	<b>10</b>	<b>6</b>	<b>10</b>	<b>9</b>

Source: South Dakota Department of Health, Office of Data, Statistics, and Vital Records

There were 51 neonatal deaths (deaths occurring to infants from birth through 27 days old) for a rate of 4.16 deaths per 1,000 live births. There were 28 postneonatal deaths (deaths occurring to infants 28 days to 1 year of age) for a rate of 2.29 deaths per 1,000 live births. In comparison, 2006 neonatal and postneonatal rates were 3.61 and 3.27 per 1,000 live births, respectively. The number of fetal deaths increased from 33 in 2006 to 54 in 2007, with a corresponding increase in the fetal mortality rate from 2.76 (per 1,000 live births plus fetal deaths) in 2006 to 4.39 in 2007.

### Infant Mortality by Race

Table 43, below, indicates that from 2006 to 2007, the number of South Dakota resident infant deaths increased for whites and decreased for American Indians. As a result, the infant mortality rate per 1,000 live births decreased for both whites and American Indians in 2007. American Indian infant mortality rates were also significantly higher than whites were in 2007 and for the 20 year total.

**Table 43**  
**South Dakota Resident Infant Deaths and Mortality Rates by**  
**Infant's Race, 1988-2007**

Year	Race of Infant				Total	
	White		American Indian			
	Number	Rate	Number	Rate	Number	Rate
2007	51	5.33	23	10.06	79	6.45
2006	50	5.34	26	12.04	82	6.88
2005	55	6.13	25	11.60	82	7.15
2004	62	6.95	28	13.33	93	8.20
2003	43	4.98	27	12.91	73	6.62
2002	41	4.74	26	14.40	70	6.54
2001	52	6.14	25	14.12	78	7.45
2000	36	4.28	19	11.30	57	5.51
1999	66	7.62	24	14.41	94	8.94
1998	61	7.28	29	16.90	92	8.95
1997	45	5.35	30	19.51	78	7.67
1996	39	4.51	20	12.25	60	5.73
1995	69	7.95	30	19.18	99	9.46
1994	66	7.52	33	21.53	100	9.52
1993	67	7.59	35	20.35	102	9.52
1992	69	7.59	32	18.40	102	9.27
1991	73	8.05	25	15.02	103	9.42
1990	77	8.40	33	19.78	111	10.10
1989	64	6.98	40	22.82	106	9.57
1988	87	9.31	25	14.74	112	10.01
1988-2007	1,173	6.62	555	15.44	1,773	8.17

Note: Failure of the races to add to the total is due to other and unknown races.

Infant mortality rates are per 1,000 live births.

Source: South Dakota Department of Health, Office of Data, Statistics, and Vital Records

When analyzed by race, Table 44, below, indicates that the South Dakota resident neonatal mortality rate per 1,000 live births increased for whites and increased for

American Indians from 2006 to 2007. The American Indian neonatal mortality rate is significantly higher than whites for the 20 year total.

**Table 44**  
**South Dakota Resident Neonatal Deaths and Mortality Rates**  
**by Infant's Race, 1988-2007**

Year	Race of Infant				Total	
	White		American Indian			
	Number	Rate	Number	Rate	Number	Rate
2007	37	3.87	11	4.81	51	4.16
2006	30	3.20	10	4.63	43	3.61
2005	41	4.57	9	4.18	52	4.54
2004	44	4.93	12	5.71	57	5.03
2003	22	2.55	11	5.26	35	3.18
2002	24	2.78	12	6.65	38	3.55
2001	27	3.19	9	5.08	37	3.53
2000	24	2.85	7	4.16	32	3.09
1999	43	4.97	10	6.01	57	5.42
1998	34	4.06	11	6.41	46	4.47
1997	28	3.33	10	6.50	40	3.93
1996	20	2.31	11	6.74	31	2.87
1995	40	4.61	14	8.95	54	5.16
1994	37	4.22	20	13.05	57	5.43
1993	37	4.19	16	9.30	53	4.94
1992	44	4.84	12	6.90	56	5.09
1991	43	4.74	13	7.81	59	5.40
1990	43	4.69	15	8.99	58	5.28
1989	34	3.71	16	9.13	51	4.61
1988	56	5.99	6	3.54	62	5.54
1988-2007	708	3.99	235	6.54	969	4.45

Note: Failure of the races to add to the total is due to other and unknown races.

Neonatal mortality rates are per 1,000 live births.

Source: South Dakota Department of Health, Office of Data, Statistics, and Vital Records

Table 45, below, indicates that the postneonatal mortality rate per 1,000 live births decreased for both white and American Indian infants from 2006 to 2007.

The American Indian postneonatal mortality rate was significantly higher than whites in 2007 and for the 20 year total.

**Table 45**  
**South Dakota Resident Postneonatal Deaths and Mortality**  
**Rates by Infant's Race, 1988-2007**

Year	Race of Infant				Total	
	White		American Indian			
	Number	Rate	Number	Rate	Number	Rate
2007	14	1.46	12	5.25	28	2.29
2006	20	2.13	16	7.41	39	3.27
2005	14	1.56	16	7.42	30	2.62
2004	18	1.59	16	7.62	36	3.17
2003	21	2.43	16	7.65	38	3.45
2002	17	1.97	14	7.76	32	2.99
2001	25	2.95	16	9.04	41	3.91
2000	12	1.43	12	7.13	25	2.42
1999	23	2.66	14	8.41	37	3.52
1998	27	3.22	18	10.49	46	4.47
1997	17	2.02	20	13.00	38	3.74
1996	19	2.20	9	5.51	29	2.77
1995	29	3.34	16	10.23	45	4.30
1994	29	3.31	13	8.48	43	4.09
1993	30	3.40	19	11.05	49	4.57
1992	25	2.75	20	11.50	46	4.18
1991	30	3.31	12	7.21	44	4.03
1990	34	3.71	18	10.80	53	4.82
1989	30	3.27	24	13.69	55	4.97
1988	31	3.32	11	11.20	50	4.47
1988-2007	465	2.62	320	8.90	804	3.69

Note: Failure of the races to add to the total is due to other and unknown races.

Postneonatal mortality rates are per 1,000 live births.

Source: South Dakota Department of Health, Office of Data, Statistics, and Vital Records

Table 46, below, shows the leading causes of infant death from 2003 to 2007. The overall leading cause of infant death for South Dakota residents from 2003 to 2007 was certain conditions in perinatal period. Certain conditions in perinatal period accounted for 35.5 percent of all infant deaths in South Dakota from 2003 to 2007.

When analyzed by race, the leading cause

of death for white infants was certain conditions in perinatal period with 108 white infant deaths or 41.4 percent of all white infant deaths. The leading cause of death for American Indian infants was congenital malformations, deformations, and chromosomal abnormalities with 35 American Indian infant deaths or 27.1 percent of all American Indian infant deaths.

**Table 46**  
**South Dakota Resident Infant Deaths by Cause of Death and Race, 2003-2007**

	Total	Race	
		White	American Indian
<b>Total Deaths</b>	<b>409</b>	<b>261</b>	<b>129</b>
<b>Certain Conditions in the Perinatal Period..... (P00-P96)</b>	<b>145</b>	<b>108</b>	<b>31</b>
Extreme immaturity (Less than 28 comp wks of gestation)..... (P07.2)	24	17	7
Primary atelectasis of newborn ..... (P28.0)	17	15	1
Other preterm infants ( 28 comp wks or more but less than 37 comp wks of gestations)..... (P07.3)	8	2	5
Newborn affected by chorioamnionitis ..... (P02.7)	8	1	5
Hydrops fetalis not due to hemolytic disease..... (P83.2)	7	6	1
Newborn affected by other forms of placental separation and hemorrhage ..... (P02.1)	7	6	1
Newborn affected by premature rupture of membranes ..... (P01.1)	7	6	1
Respiratory distress syndrome of newborn ..... (P22.0)	6	6	0
Neonatal cardiac failure ..... (P29.0)	5	5	0
All other conditions originating in perinatal period	56	44	10
<b>Congenital Malformations, Deformations, &amp; Chromosomal Abnorm..... (Q00-Q99)</b>	<b>131</b>	<b>92</b>	<b>35</b>
Congenital malformations of the heart ..... (Q20-Q24)	29	19	9
Chromosomal abnormalities ..... (Q90-Q99)	24	19	5
Edward's syndrome ..... (Q91.0-Q91.3)	11	10	1
Patau's syndrome ..... (Q91.4-Q91.7)	8	7	1
Congenital malformations of the nervous system..... (Q00-Q07)	22	16	6
Anencephaly ..... (Q00.0)	8	7	1
Holoprosencephaly ..... (Q04.2)	7	4	3
Congenital malformations and deformations of the musculoskeletal system ..... (Q65-Q79)	16	12	3
Congenital diaphragmatic hernia..... (Q79.0)	8	7	1
Congenital malformations of the urinary system ..... (Q60-Q64)	16	11	4
Potter's syndrome ..... (Q60.6)	5	3	2
Renal agenesis ..... (Q60.0-Q60.2)	5	4	0
Congenital malformations of the respiratory system ..... (Q30-Q34)	10	5	4
Hypoplasia and dysplasia of lung..... (Q33.6)	8	4	3
All other congenital anomalies	14	10	4
<b>Sudden Infant Death Syndrome ..... (R95)</b>	<b>49</b>	<b>21</b>	<b>24</b>
<b>Accidents .....(V01-X59, Y85-Y86)</b>	<b>23</b>	<b>11</b>	<b>12</b>
Motor vehicle accidents	5	0	5
Accidental suffocation and strangulation in bed ..... (W75)	5	3	2
All other accidents	13	8	5
<b>Ill-Defined and Unknown Causes of Mortality .....(R96-R99)</b>	<b>14</b>	<b>6</b>	<b>8</b>
<b>Symptoms, Signs, and Abnormal Clinical and Lab Findings.....(R00-R94)</b>	<b>8</b>	<b>3</b>	<b>3</b>
<b>All Other Causes</b>	<b>39</b>	<b>20</b>	<b>16</b>

Note: Failure of the races to add to the total is due to other and unknown races.

Source: South Dakota Department of Health, Office of Data, Statistics, and Vital Records

## Infant Mortality and Birth Weight

Table 47, below, displays infant mortality rates by birth weight. The highest mortality rate is for babies born who weigh less than 1,000 grams with an infant mortality rate of 445.54, a neonatal mortality rate of 399.34,

and a postneonatal mortality rate of 46.20. The three highest rates occur below 2,500 grams which is considered low birth weight babies.

**Table 47**  
**South Dakota Resident Infant Mortality Rates by Birth Weight, 2003-2007**

<b>Birth Weight (in Grams)</b>	<b>Births</b>	<b>Infant Deaths</b>	<b>Infant Mortality Rate</b>	<b>Neonatal Mortality Rate</b>	<b>Postneonatal Mortality Rate</b>
<b>Total</b>	<b>57,994</b>	<b>409</b>	<b>7.05</b>	<b>4.10</b>	<b>2.95</b>
<1,000	303	135	445.54	399.34	46.20
1,000-1,499	338	24	71.01	53.25	17.75
1,500-1,999	770	29	37.66	28.57	9.09
2,000-2,499	2,559	39	15.24	9.77	5.47
2,500-2,999	9,307	70	7.52	3.33	4.19
3,000-3,499	22,151	60	2.71	0.50	2.21
3,500-3,999	17,098	41	2.40	0.41	1.99
4,000-4,499	4,698	6	1.28	0.21	1.06
4,500+	745	3	4.03	1.34	2.68

Note: Infant, neonatal, and postneonatal mortality rates are per 1,000 live births.

Failure of births to add to total is due to unknown birth weights.

Source: South Dakota Department of Health, Office of Data Statistics, and Vital Records

## Infant Mortality and Prenatal Care

Table 48, below, displays infant mortality rates by prenatal care. The highest infant mortality rate, 47.09, occurred when mothers did not have prenatal care. This is true for neonatal and postneonatal mortality rates. The neonatal mortality rate for no

prenatal care, 31.39, was double that of the postneonatal mortality rate for no prenatal care, 15.70. In comparison, when mothers received prenatal care in the first trimester the infant mortality rate was only 5.97.

**Table 48**  
**South Dakota Resident Infant Mortality Rates by Prenatal Care, 2003-2007**

<b>Trimester Prenatal Care Began</b>	<b>Births</b>	<b>Infant Deaths</b>	<b>Infant Mortality Rate</b>	<b>Neonatal Mortality Rate</b>	<b>Postneonatal Mortality Rate</b>
<b>Total</b>	<b>57,994</b>	<b>409</b>	<b>7.05</b>	<b>4.10</b>	<b>2.95</b>
First Trimester	43,205	258	5.97	3.61	2.36
Second Trimester	11,566	95	8.21	4.15	4.06
Third Trimester	2,211	20	9.05	4.07	4.98
No Prenatal Care	446	21	47.09	31.39	15.70

Note: Infant mortality rates are per 1,000 live births.

For purposes of calculating infant mortality rates by prenatal care, multiple births and deaths

(twins, triplets, etc) are counted only as a single birth and death.

Failure of births and infant deaths to add to the total is due to unknown trimester prenatal care began.

Source: South Dakota Department of Health, Office of Data, Statistics, and Vital Records

## Infant Mortality and Gestation Period

Table 49, below, displays infant mortality rates by gestation period. The highest infant mortality rate occurred during less than 25 weeks with a rate of 746.27. The highest

neonatal mortality rate occurred at less than 25 weeks with a rate of 716.42. The highest postneonatal mortality rate occurred during 25 to 29 weeks with a rate of 37.27.

**Table 49**  
**South Dakota Resident Infant Mortality Rates by Gestation Period, 2003-2007**

Weeks of Gestation	Births	Infant Deaths	Infant Mortality Rate	Neonatal Mortality Rate	Postneonatal Mortality Rate
<b>Total</b>	<b>57,866</b>	<b>408</b>	<b>7.05</b>	<b>4.10</b>	<b>2.96</b>
<25 Weeks	134	100	746.27	716.42	29.85
25-29 Weeks	322	44	136.65	99.38	37.27
30 Weeks	110	10	90.91	63.64	27.27
31 Weeks	145	8	55.17	48.28	6.90
32 Weeks	270	11	40.74	37.04	3.70
33 Weeks	339	8	23.60	20.65	2.95
34 Weeks	606	19	31.35	13.20	18.15
35 Weeks	1,031	14	13.58	8.73	4.85
36 Weeks	2,306	18	7.81	3.47	4.34
37 Weeks	4,915	20	4.07	1.63	2.44
38 Weeks	10,163	45	4.43	1.28	3.15
39 Weeks	16,513	49	2.97	1.03	1.94
40 Weeks	15,330	43	2.80	0.59	2.22
41 Weeks	5,070	14	2.76	0.79	1.97
42+ Weeks	612	5	8.17	3.27	4.90

Note: Infant mortality rates are per 1,000 live births.

Failure of births and infant deaths to add to the total is due to unknown weeks of gestation.

Source: South Dakota Department of Health, Office of Data, Statistics, and Vital Records

## Infant Mortality and Tobacco Use

Table 50, below, displays infant mortality rates by tobacco use of the mother. Mothers who reported they did use tobacco while pregnant had an infant mortality rate

of 10.44, while mothers who reported they did not use tobacco while pregnant had an infant mortality rate of 6.26.

**Table 50**  
**South Dakota Resident Infant Mortality Rates by Tobacco Use of Mother, 2003-2007**

Tobacco Use of Mother	Births	Infant Deaths	Infant Mortality Rate	Neonatal Mortality Rate	Postneonatal Mortality Rate
<b>Total</b>	<b>57,633</b>	<b>406</b>	<b>7.04</b>	<b>4.13</b>	<b>2.91</b>
Yes	10,828	113	10.44	5.36	5.08
No	46,805	293	6.26	3.85	2.41

Note: Infant mortality rates are per 1,000 live births.

Failure of births to add to the total is due to unknown tobacco use of the mother.

Source: South Dakota Department of Health, Office of Data, Statistics, and Vital Records



## Infant Mortality and Mother Demographics

The following tables, 51a-51d, compare infant mortality rates among different demographics of the mother, different previous pregnancy histories, different labor and delivery situations, and different post delivery conditions. The comparison is done using the Chi-Square test. An explanation of this test is given in the Technical Notes section on page 233.

The rates denoted with an asterisk are the ones found to illustrate an association with the variables listed in the left column. For example, the test indicates that when there is a change in the education of the mother, there is an associated change with the infant

mortality rate as well as the post-neonatal mortality rate.

However, it should be noted that this test does not consider relationships among multiple variables at the same time. Therefore, dependencies detected by chi-square analyses may be unrealistic or non-causal. There may be other unseen factors that make the variables appear to be associated. However, if properly used, this test is a very useful tool for the evaluation of associations and can be used as a preliminary analysis of more complex statistical evaluations.

**Table 51a**  
**South Dakota Resident Infant Mortality Rates by Demographics of Mother, 2006-2007**

	Births	Infant Deaths	Infant Mortality Rate	Neonatal Mortality Rate	Postneonatal Mortality Rate
<b>Education</b>					
11 years of less	2,923	29	9.92*	5.47	4.45*
12+ years	19,830	105	5.30*	3.38	1.87*
<b>Marital Status</b>					
Single	9,112	75	8.23*	4.72	3.51*
Married	15,016	77	5.13*	3.46	1.60*
<b>Mother's WIC Status</b>					
No WIC	14,069	69	4.90*	3.48	1.35*
WIC	9,363	70	7.48*	3.74	3.74*
<b>Age</b>					
<18	672	8	11.90	7.44	4.46*
18-19	1,656	15	9.06	4.83	4.23*
20-24	6,590	44	6.68	3.34	3.34*
25-29	7,975	45	5.64	3.89	1.76*
30+	7,264	40	5.51	3.99	1.38*
<b>BMI</b>					
Underweight	822	2	2.43*	2.43*	0.00
Recommended	11,872	64	5.39*	3.29*	2.02
Overweight	5,841	33	5.65*	2.91*	2.74
Obese	4,944	45	9.10*	6.27*	2.83
<b>Payment Source</b>					
Medicaid	8,401	69	8.21*	4.52	3.69*
Private Insurance	12,765	62	4.86*	3.29	1.49*
Self-Pay	604	5	8.28*	4.97	3.31*
Indian Hlth Service	566	6	10.60*	3.53	7.07*
Champus/Tricare	559	1	1.79*	1.79	0.00*
Other Government	244	1	4.10*	4.10	0.00*
Other	423	2	4.73*	4.73	0.00*

Note: \*The Chi-square statistic is significant at the 0.05 level.

Source: South Dakota Department of Health, Office of Data, Statistics, and Vital Records

**Table 51b**  
**South Dakota Resident Infant Mortality Rates by Previous Pregnancy History, 2006-2007**

	<b>Births</b>	<b>Infant Deaths</b>	<b>Infant Mortality Rate</b>	<b>Neonatal Mortality Rate</b>	<b>Postneonatal Mortality Rate</b>
<b>Number of Dead Children</b>					
0	23,772	141	5.93*	3.79*	2.10*
1+	359	10	27.86*	11.14*	16.71*
<b>Number of Terminations</b>					
0	17,802	106	5.95	3.65*	2.30
1	4,419	25	5.66	3.62*	2.04
2	1,263	10	7.92	5.54*	1.58
3	375	7	18.67	13.33*	5.33
4	151	1	6.62	0.00*	6.62
5+	102	1	9.80	9.80*	0.00
<b>Number of Previous Pregnancies</b>					
0	7,370	38	5.16*	3.80	1.36*
1	6,694	38	5.68*	2.54	3.14*
2	4,728	26	5.50*	4.02	1.48*
3	2,516	17	6.76*	4.37	2.38*
4	1,330	13	9.77*	6.77	3.01*
5	659	8	12.14*	7.59	3.03*
6	345	1	2.90*	0.00	2.90*
7	187	3	16.04*	10.70	5.35*
8	117	3	25.64*	8.55	17.09*
9+	156	3	19.23*	12.82	6.41*
<b>Previous Pre-Term Infant</b>					
No	22,991	139	6.05*	3.70*	2.31
Yes	917	11	12.00*	8.72*	3.27
<b>Other Poor Outcomes</b>					
No	23,230	138	5.94*	3.62*	2.28
Yes	678	12	17.70*	13.27*	4.42
<b>Infertility Treatment</b>					
No	23,667	146	6.17*	3.76*	2.37
Yes	241	4	16.60*	16.60*	0.00

Note: \*The Chi-square statistic is significant at the 0.05 level.

Source: South Dakota Department of Health, Office of Data, Statistics, and Vital Records

**Table 51c**  
**South Dakota Resident Infant Mortality Rates by Labor and Delivery, 2006-2007**

	<b>Births</b>	<b>Infant Deaths</b>	<b>Infant Mortality Rate</b>	<b>Neonatal Mortality Rate</b>	<b>Postneonatal Mortality Rate</b>
<b>Tocolysis</b>					
No	23,301	139	5.97*	3.69*	2.23*
Yes	574	11	19.16*	12.20*	6.97*
<b>Premature Rupture of Membranes</b>					
No	22,886	128	5.59*	3.32*	2.23
Yes	1,002	23	22.95*	17.96*	4.99
<b>Precipitous Labor</b>					
No	22,691	136	5.99*	3.61*	2.34
Yes	1,197	15	12.53*	10.03*	2.51
<b>Augmentation of Labor</b>					
No	18,445	125	6.78	4.39*	2.33
Yes	5,558	25	4.50	2.16*	2.34
<b>Non-Vertex Presentation</b>					
No	23,642	144	6.09*	3.72*	2.33
Yes	361	6	16.62*	13.85*	2.77
<b>Steroids for Fetal Lung Maturation Received by the Mother Prior to Delivery</b>					
No	23,603	140	5.93*	3.69*	2.20*
Yes	400	10	25.00*	15.00*	10.00*
<b>Clinical Chorioamnionitis Diagnosed During Labor – Maternal Temp <math>\geq 38^{\circ}\text{C}</math></b>					
No	23,873	144	6.03*	3.69*	2.30
Yes	130	6	46.15*	38.46*	7.69
<b>Fetal Intolerance of Labor Requiring In-Utero Resuscitative Measures, Further Fetal Assessment or Operative Delivery</b>					
No	22,790	135	5.92*	3.60*	2.28
Yes	1,213	15	12.37*	9.07*	3.30
<b>Epidural or Spinal Anesthesia During Labor</b>					
No	8,125	58	7.14*	4.55*	2.58
Yes	11,557	49	4.24*	2.25*	1.99
<b>Fetal Presentation</b>					
Cephalic	22,852	117	5.12*	2.80*	2.28
Breech	951	30	31.55*	28.39*	3.15
<b>Maternal Transfusion</b>					
No	23,766	146	6.14*	3.74*	2.36
Yes	108	4	37.04*	37.04*	0.00

Note: \*The Chi-square statistic is significant at the 0.05 level.

Source: South Dakota Department of Health, Office of Data, Statistics, and Vital Records

**Table 51d**  
**South Dakota Resident Infant Mortality Rates by Post Delivery Conditions, 2006-2007**

	<b>Births</b>	<b>Infant Deaths</b>	<b>Infant Mortality Rate</b>	<b>Neonatal Mortality Rate</b>	<b>Postneonatal Mortality Rate</b>
<b>Five Minute APGAR Score</b>					
0-2	111	51	459.46*	450.45*	9.01
3-4	133	12	90.23*	82.71*	7.52
5	141	6	42.55*	35.46*	7.09
6	288	9	31.25*	24.31*	6.94
7	921	11	11.94*	5.43*	5.43
8	4,637	15	3.23*	0.86*	2.37
9	16,526	42	2.54*	0.61*	1.94
10	1,346	3	2.23*	0.74*	1.49
<b>Ten Minute APGAR Score</b>					
0-6	122	61	500.00*	483.61*	16.39
7-8	162	5	30.86*	30.86*	0.00
9-10	100	0	0.00*	0.00*	0.00
<b>Breastfeeding at the Time of Discharge</b>					
No	6,210	42	6.76*	3.38*	3.38*
Yes	17,416	46	2.64*	0.75*	1.84*
<b>Assisted Ventilation Required Immediately Following Delivery</b>					
No	22,352	113	5.06*	2.95*	2.06*
Yes	1,545	36	23.30*	16.83*	6.47*
<b>Assisted Ventilation for More than Six Hours</b>					
No	23,332	125	5.36*	3.21*	2.10*
Yes	565	24	42.48*	30.09*	12.39*
<b>Neonatal Intensive Care Unit Admission</b>					
No	21,813	101	4.63*	2.61*	2.02*
Yes	2,084	48	23.03*	16.79*	5.76*
<b>Newborn Given Surfactant Replacement Therapy</b>					
No	23,724	136	5.73*	3.54*	2.15*
Yes	173	13	75.14*	46.24*	28.90*
<b>Antibiotics Received by the Newborn for Suspected Neonatal Sepsis</b>					
No	22,705	127	5.59*	3.39*	2.16*
Yes	1,192	22	18.46*	12.58*	5.87*

Note: \*The Chi-square statistic is significant at the 0.05 level.

Source: South Dakota Department of Health, Office of Data, Statistics, and Vital Records